Photorealistic and Animation Features

A-D,T:
These controls allow you to adjust the value of the 5 variables which can be used in formulas in the Equation/Data Inspector. A-D are general purpose variables. T represents time and is used to generate animations.
The leftmost column of numbers and the sliders control the variable values. The other 2 columns of numbers represent the minimum and maximum values of the sliders. When an animation is created, T will vary in uniform steps from its minimum slider value to its maximum slider value.

Photoreal Axis Titles
Pretty self explanitory. These are the titles that will be displayed on the respective axes in photorealistic rendering (printing, rib files and photoreal tiffs). This only occurs if you have Labels enabled on the Display Options panel.

Font Size
This is the size of the font used for axis and tick labels. This size is with respect to a 400 point wide image which is mapped to the space next to each axis. The font used is hardcoded to Helvetica-Bold. The next version should support more options here.

Animation
These are the animation controls. Selecting spin will cause the plot to be rotated once about the z axis over the course of the entire animation. Selecting time will cause the T variable to move uniformly from its minimum slider value to its maximum slider value. Frames selects the number of frames in the animation. GO will start the animation process. Once a destination filespec has been selected the animation cannot be aborted (except by killing the program).

Keep in mind that each frame can take a while to generate. You almost certainly will want to shrink the 3d window from its default size before making an animation. Animation frames are generated in 32 bit color, so the resulting animation can take quite a bit of disk space. As an example, a 10 frame 300X300 animation will take about a meg of disk space and about 4-5 minutes/frame to generate on a 486/66.

Animations are generated in the newer of the 2 NeXT animation formats. A directory is created called X.anim. The directory contains individual tiff files called: X.1 thru X.n. These animations can be viewed with a recent version of Movie.app (available from cs.orst.edu).

Photoreal Overlays
It is now possible to map a variety of features onto the surface of your

3d plots (in mesh and spherical modes) or onto the floor polygon (if it is enabled). The image that is mapped to the surface is whatever you have displayed in the contour/density plot window (see Display Options for more info). Selecting 'Surface' will map the image to the surface, selecting 'Floor' will map the image to the floor.
The same image will be mapped to both surfaces.

Surface mapping works only for mesh and spherical plots. Also, if mesh plots for 2 data sets are being displayed simultaneously, the SAME surface map will be applied to both (whichever one is currently being displayed in the density/contour window.

'Contour Surf' is a special option. Often the extreme slope of the plot will make contour lines from surface maps appear blurry. Also, doing a surface map will obscure any colors you might have mapped on the surface. 'Contour Surf' gets around both of these problems. Rather than doing a surface map, it uses a custom renderman shader I wrote to generate contours. Contours generated using this method will be very smooth and accurate, and will not obscure the colors defined for the surface. Unfortunately you cannot do other surface maps with this method (ie - you cannot ALSO overlay a mesh in this mode). However, using this mode does NOT prevent you from mapping the contour/density plot to the floor.

Warning: For the 'Contour Surf' option to function, you MUST have the contour.slo shader installed in either /LocaLibrary/Shaders or $HOME/Library/Shaders.

Resolution is used for the Surface and Floor mapping modes. This number is the size of the bitmap that is generated fro surface mapping. A higher number will produce a sharper looking surface map, but will take more time and disk space. 400 is the maximum allowed value and will eat almost 2 megs of space on /tmp.